

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

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Listing of Claims:

1-5 (canceled)

- 10 6. (currently amended) A method of maintaining a communications link between a ground station and a suborbital platform, wherein the ground station communicates using an antenna that provides a communication signal of limited beamwidth, comprising:
- positioning the suborbital platform and antenna such that the suborbital platform is within the beamwidth of the antenna's signal;
- al 15 maintaining the antenna in a generally fixed ~~location~~ orientation; and
- flying the suborbital platform in a pattern that maintains the suborbital platform within the beamwidth of the signal.

- 20 7. (currently amended) The method of claim 6, wherein the airplane is substantially maintained within a geostationary station delimited by a 4000-foot diameter circle and a 100-foot altitude range.

- 25 8. (original) The method of claim 6, wherein the step of flying is continued for at least 200 hours.

9. (original) The method of claim 6, wherein the step of flying is continued for at least 3000 hours.

- 30 10. (original) The method of claim 6, wherein the suborbital platform is an airplane.

11. (currently amended) A communications system for communicating between a satellite and a ground station, comprising:

a downward-pointing communications antenna on the satellite, the downward-pointing antenna having a limited signal beam-width;

5 an upward-pointing communications antenna on the ground station, the upward-pointing antenna having a limited signal beam-width, wherein the downward-pointing antenna and the upward-pointing antenna are aimed such that they delimit a geostationary region of airspace that is within both signal beam-widths; and

a suborbital platform configured to fly a pattern entirely within the delimited region
10 of airspace.

12. (currently amended) The communication system of claim 11, wherein the suborbital platform is substantially maintained within a geostationary station delimited by a 4000-foot diameter circle and a 100-foot altitude range.

13. (currently amended) A communication system ~~for providing communications between, comprising:~~

a ground station; and

a spacecraft in geosynchronous orbit, the ground station and the spacecraft having
20 communications systems that are characterized by operating with given beamwidths; ~~comprising; and~~

a suborbital platform maintained at a non-equatorial latitude that prevents the ground station from being within the beamwidth of communication signals transmitted by the spacecraft toward the suborbital platform, and that prevents the spacecraft from being
25 within the beamwidth of communication signals transmitted by the ground station toward the suborbital platform;

wherein the ground station maintains both a direct communications signal and an indirect communications signal with the spacecraft, the indirect communications signal being directed to the suborbital platform which relays the signal to the spacecraft; and

30 wherein the direct and indirect communications signals from the ground station use the same wavelengths.

14. (original) The communication system of claim 13, wherein the suborbital platform is configured to operate for at least 200 hours.

5 15. (original) The communication system of claim 13, wherein the suborbital platform is configured to operate for at least 3000 hours.

16. (original) The communication system of claim 13, wherein the suborbital platform is configured to maintain the airplane within a station delimited by a 4000-foot diameter circle and a 100-foot altitude range.

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17. (currently amended) A communication apparatus for communicating data between a terrestrial gateway and a plurality of terrestrial terminals, comprising:

an airplane flying within a geostationary station; and

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a network carried by the airplane, and having at least three downward-pointing
15 communication devices, each communication device defining a beamwidth for communication, the communication devices' beamwidths delimiting distinct terrestrial communication cells that include the terminals when the airplane is aloft in a predetermined station;

wherein the network is configured to maintain a communications signal carrying
20 the data with the gateway; and

wherein the communications devices are configured to route the data carried by the communication signal between the network and the plurality of terminals; and

wherein each terminal has a terminal antenna configured for carrying the communication signal, the terminal antenna being configured such that the airplane's entire
25 flight station falls within the terminal antenna's beamwidth without any adjustment of the terminal antenna's aim.

18. (original) The communications system of claim 17, wherein:

the network is configured to maintain additional communications signals carrying
30 additional data with additional gateways; and

the communications devices are further configured to route the data carried by the additional communication signals between the network and the plurality of terminals.

19. (original) The communications system of claim 17, wherein the communications device is carried by an airplane configured to stay aloft without refueling for at least 200 hours.

5 20. (original) The communications system of claim 17, wherein the communications device is carried by an airplane configured to stay aloft without refueling for at least 3000 hours.

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21 (canceled)

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22. (currently amended) The communications system of claim ~~21~~ 17, wherein the terminal antenna includes no active tracking mechanism.

23. (currently amended) A communication system for communicating data between one or more ~~data sources~~ gateways and a plurality of terrestrial terminals, each terminal having an antenna characterized by an orientation and a beamwidth, comprising:

5 a plurality of airplanes including a first airplane and a second airplane, each airplane flying within a flight station; and

a plurality of networks, each airplane carrying a network, each network having at least three downward-pointing communication devices, each communication device defining a beamwidth for communication, the communication devices' beamwidths delimiting distinct terrestrial communication cells that include the terminals when the
10 airplane is aloft in a ~~predetermined~~ its respective flight station; and

ai wherein the networks of the first airplane and the second airplane are configured to communicate with terminals in one or more of the same communication cells using the same wavelengths;

~~one or more gateways in communication with the one or more data sources,~~
15 wherein each network is configured to maintain ~~one or more~~ communications signals ~~carrying the data with the~~ one or more gateways;

wherein each communications device is configured to route data carried by its respective network's ~~one or more communication signals~~ gateway communications between its respective network and one or more of the plurality of terminals; and

20 wherein each airplane's respective station is outside of the oriented beamwidths of the terminal antennas that are in communication with other airplanes.

24-25 (canceled)

25 26. (original) The communications system of claim 23, wherein each airplane is configured to stay aloft without refueling for at least 200 hours.

27. (original) The communications system of claim 23, wherein each airplane is configured to stay aloft without refueling for at least 3000 hours.

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28. (currently amended) The communications system of claim 23, wherein each terminal ~~has a terminal~~ antenna is configured such that the ~~airplane's~~ entire station of the airplane, with which it is in communication, falls within the terminal antenna's beamwidth without any adjustment of the terminal antenna's ~~aim~~ orientation.

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29. (original) The communications system of claim 28, wherein the terminal antenna includes no active tracking mechanism.

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